

Form ESA-B4. Final Public Report for ESA-035-3

Company	General Motors Assembly Plant	ESA Dates	February 27 - 29, 2008
Plant	Janesville, WI	ESA Type	Steam System ESA
Product	Automobile Assembly	ESA Specialist	Ven V. Venkatesan

Brief Narrative Summary Report for the Energy Savings Assessment:

Introduction:

The General Motors plant at Janesville WI (GMJ) assembles the automobile components into finished vehicles at its 4.5 million square foot manufacturing area. This plant already converted most of its process steam use to direct natural gas firing or to hot water heating. Presently steam is used only for space-heating during the winter months. Steam is generated at 150-psig pressure, distributed to the manufacturing area and utilized in the air-handling units at 30-psig pressure. Steam is generated at one of the two natural gas-fired water tube boilers installed in 2007, located in a separate building next to the process area. Over 80% of the condensate is returned back to the boiler house.

The GM's, Janesville site purchases Natural gas & Electricity from the local utility companies for its energy needs. The purchased natural gas is also used in the paint drying ovens, in 3-waste gas Incinerators, in 2-hot water boilers and in some of the direct gas-fired air-handling units. Since the steam system is used only for space heating in the winter months, the plant is considering replacing the entire steam system with gas-fired air handlers in future. Hence the natural gas fired Incinerators & Hot water boilers are also included in the scope of this steam system ESA.

Objective of ESA:

To provide U.S. industries technical assistance targeted to reduce their fuel expenditure.

Focus of Assessment:

The focus of this Steam System Energy Savings Assessment (ESA) is as follows: (1) to train in-plant personnel to continue and sustain the improvements and (2) to identify energy waste reduction opportunities. This ESA is focused on the Steam System at General Motor's, Janesville site covering its Boiler, steam distribution piping, Incinerators and the Hot water boilers.

Approach for ESA:

USDOE qualified specialist provided training to the plant engineers in the use of USDOE's SSST & SSAT tools and helped them in completing an initial assessment using the SSAT model developed for the GM's Janesville site.

General Observations of Potential Opportunities:

- Recent impact costs were used at the SSAT model during the ESA.

This ESA is only a preliminary assessment, and a more detailed review, engineering and economic analysis is required prior to implementing the above opportunities.

Management and UAW Support and Comments:

A corporate level management team and the UAW/WFG Joint Task Team encourage any effort that reduces the Energy usage at all of its plants located around the country. General Motors has a target to reduce energy use and costs by 6% this year. They have an Energy Engineer with this assignment at each facility.

The present competitive situation in the Automobile industry has created a necessity to control the energy waste at all its manufacturing units and Janesville is no exception to it. GMJ's management team has shown great enthusiasm by already implementing many energy efficiency projects and monitoring closely their energy use. The plant personnel took interest in participating in the ESA & in the subsequent discussions. GMJ's management team evinced interest to pursue further with the ESA recommendations. The **Focus on Energy** group at Wisconsin is also supporting GMJ's efforts to save energy at its site.

The UAW/WFG Joint Task Teams have identified several Department of Energy (DOE) best practices that will have a significant impact if implemented at GM Facilities. Due to the focus of the Best Practices there is an opportunity for our UAW Skilled Trades to provide a substantial cost savings impact to the operating costs of our facilities by working jointly with the GM/WFG management organization.

UAW/WFG Joint Task Team, DOE associated Best Practices:

BMES-01 Pumping System Assessment Tool

BMES-02 Air Master + Diagnostic Tool

BMES-03 Motor Master + Diagnostic Tool

BMES-04 Steam System Assessment Tool

BMES-07 Fan system Assessment Tool

BMES-09 Chilled Water System Assessment Tool

The UAW Skilled Trades working in conjunction with the GM/WFG Energy & Utilities Services Group (EUSG) and the GM/WFG Facilities Management Group (FM) can jointly pursue the effort to optimize the operating efficiencies of these major systems that are found in GM facilities.

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